



## SFI Knowledge Catalyst — Connect with Students Impact Story

# Solving Tomorrow's Problems Today

**Solvency II and Swiss Solvency Test requirements and the long-term nature of liabilities force life insurance providers to find ways of assessing the behavior of their liabilities under different economic scenarios. Replicating portfolios is a relatively new but established technique that many of the biggest European insurers are using for that purpose.**

### Challenge

At Zurich Insurance, Lucio Fernandez-Arjona and his colleague Regine Scheder wanted to confirm their understanding of the algorithms being applied by the third-party software their team was using. "We thought it was possible to build something better," Fernandez-Arjona explains. "But we had to prove it to build our business case. We wanted to build on academically proven ground so we decided to work with students from the University of Zurich."

### Solution

SFI Professor Karl Schmedders selected three students with a great interest in the topic. While he supervised the scientific side of the theses, Fernandez-Arjona and Scheder mentored the students on the business side. "We greatly appreciated this team work and the inspiring knowledge exchange that took place with the professor and the students," Scheder recalls. "While the students got insights into our business needs, we gained knowledge about what works and what doesn't work in the various testing scenarios."

### Results

The results showed which specific techniques work in practice and that it is mathematically possible to replace the existing software used for such calculations, allowing Zurich to hire a company to build and implement a new software solution. "In the end, this is expected to save us over 50% of our team's IT operating expenses," Fernandez-Arjona confirms. The Master's theses even went so far as to prepare the ground for future improvements in the new software. Fernandez-Arjona is convinced: "This has created a great base to answer future needs."



**"The findings of the theses enabled us to have new software built that is expected to save us over 50% of our team's IT operating expenses."**

Lucio Fernandez-Arjona, Senior ALM Actuary, Zurich Insurance Company Ltd.

### SFI Knowledge Catalyst

The Knowledge Catalyst is a three-way project between a Master's or PhD student, a corporate partner, and a supervising SFI professor. Students are selected to conduct research projects for companies while being supervised by a dedicated member of SFI's academic faculty.

### Contact

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